

### ABSTRACT

The invention relates to a catalyst system for the selective trimerisation of olefins, which system is based on a titanium complex of formula  $(\text{Cp}-\text{B}(\text{R})_n\text{Ar})\text{TiR}^1_3$ , wherein:

5 Cp is a cyclopentadienyl type ligand, optionally substituted,  
B is a bridging group, based on a single atom selected from the groups 13 to 16 inclusive of the Periodic System,  
Ar is a aromatic group, optionally substituted,  
10 R is, independently, hydrogen, or a hydrocarbon residue, optionally being substituted and optionally containing heteroatoms, or groups R and B are joined together to form a ring,  
n is an integer equal to the (valency of B minus 2), and  
R<sup>1</sup> is a mono-anionic group, and further comprises  
15 an activator. The present catalyst system obviates the use of toxic chromium compounds.